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ART 34 AML  
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1. A method for investigating biological samples for  
cancer cells, where the expression of at least 2  
genes which are selected from
- i) manganese superoxide dismutase genes;  
ii) thioredoxin reductase genes; and  
iii) glutathione peroxidase genes
- is determined on at least one cell-containing  
fraction of the biological sample.
2. The method as claimed in claim 1, characterized in  
that the expression of at least one manganese  
superoxide dismutase gene, of at least one  
thioredoxin reductase gene and of at least one  
glutathione peroxidase gene is determined.
3. The method as claimed in claim 1 or 2, charac-  
terized in that the biological sample is a body  
fluid selected from blood, bone marrow, lymph,  
sputum, lavages, puncture fluids, ascites, mucosal  
smears, exudates, urine and stool.
4. The method as claimed in any of the preceding  
claims, characterized in that the cell-containing  
fraction is obtained from the biological sample  
with enrichment of cancer cells.
5. The method as claimed in any of the preceding  
claims, characterized in that
- the cell-containing fraction is obtained from  
the biological sample with enrichment of cancer  
cells, and the expression of the genes in the  
cell-containing fraction is determined,
  - a further cell-containing fraction of the  
biological sample or of a comparable biological  
sample is provided, and the expression of the

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genes in the further cell-containing fraction is determined, and

- the expression for each gene in the cell-containing fraction is compared with its expression in the further cell-containing fraction.

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6. The method as claimed in claim 5, characterized in that the comparable biological sample is derived from the individual whose biological sample is investigated for cancer cells.

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7. The method as claimed in either of claims 5 or 6, characterized in that it is determined whether expression of the genes in the cell-containing fraction is elevated by comparison with the expression of the genes in the further cell-containing fraction.

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8. The use of a method as claimed in any of claims 1 to 7 for identifying disseminated cancer cells in an individual, in particular for early diagnosis of tumors, and for estimating the risk for the individual to develop a metastasis or a recurrence.

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9. An analysis kit comprising means for determining the expression of at least 2 genes which are selected from

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- i) manganese superoxide dismutase genes;
- ii) thioredoxin reductase genes; and
- iii) glutathione peroxidase genes

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and optionally further usual means for carrying out the method as claimed in any of claims 1 to 7.

10. The use of a combination of active substances for reducing the expression of at least 2 genes which

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are selected from

- i) manganese superoxide dismutase genes;
- ii) thioredoxin reductase genes; and
- 5 iii) glutathione peroxidase genes

for providing a pharmaceutical composition for the treatment of cancer.